



Indiana Metadata Standard

The goal of the Standards and Recommendations Committee is to provide recommendations and guidelines to Indiana GIS user communities to facilitate the collection, maintenance and analysis of GIS data; and, to communicate existing federal, state and local data standards. The Data Standards and Recommendation Committee will not recommend software, hardware or operating systems. Furthermore, the Data Standards and Recommendation Committee will not impose any of these recommendations and guidelines as a requirement on any GIS user community.

What is Metadata?

Metadata – *data documentation* – are a critical component of any GIS project, essential for data sharing, and absolutely vital for protecting an organizations investment in data. The major uses of metadata are:

- to help organize and maintain an organizations internal investment in their GIS data,
- to provide information about an organization's data holdings to data catalogs, clearinghouses, and brokerages, and
- to provide information to process and interpret data received through a transfer from an external source.

Metadata document the content and quality of GIS and other geospatial data, such as databases, maps, and documents. Much like an electronic card catalog for books, there are standards for what gets documented, and how to do it. Metadata for GIS documents who created and owns the data, what the data represent, why it was created, where the data represent geographically, when the data were created and the time period they represent, and how the data was created.

By using either of the following recommendations for metadata, you can document your data holdings to protect your data investment, and share metadata with others by posting your metadata to Indiana's Geographic Information Catalog (http://atlas.ulib.iupui.edu/fgdc_node/). The metadata standards listed below do not specify what software to use to develop your metadata – there are several free and commercial software packages available to assist you in metadata development. The Indiana GIS Initiative Metadata Toolkit (www.state.in.us/ingisi/) can provide on-line resources to assist in this process.

Recommendation

The Federal Geographic Data Committee (FGDC) has adopted a standard for metadata called the Content Standard for Digital Geospatial Metadata. The Indiana Geographic Information Council has developed a two-tier recommendation based on users ability to conform with the federal standard.

What is the difference between Tier One and Tier Two?

Tier One

The first tier recommendation for metadata is to develop fully FGDC compliant metadata by completing all of the “mandatory” and “mandatory if applicable” sections of the Content Standard for Digital Geospatial Metadata (<http://www.fgdc.gov/metadata/contstan.html>). This is strongly recommended by the Indiana Geographic Information Council and **may be necessary if you must comply with federal metadata standards.**

OBJECTIVES:

The objectives of the standard are to provide a common set of terminology and definitions for the documentation of digital geospatial data.

SCOPE:

Executive Order 12906, "Coordinating Geographic Data Acquisition and Access: The National Spatial Data Infrastructure," was signed on April 11, 1994, by President William Clinton. Section 3, Development of a National Geospatial Data Clearinghouse, paragraph (b) states: "Standardized Documentation of Data, ... each agency shall document all new geospatial data it collects or produces, either directly or indirectly, using the standard under development by the FGDC, and make that standardized documentation electronically accessible to the Clearinghouse network." This standard is the data documentation standard referenced in the executive order.

The standard was developed from the perspective of defining the information required by a prospective user to determine the availability of a set of geospatial data, to determine the fitness the set of geospatial data for an intended use, to determine the means of accessing the set of geospatial data, and to successfully transfer the set of geospatial data. As such, the standard establishes the names of data elements and compound elements to be used for these purposes, the definitions of these data elements and compound elements, and information about the values that are to be provided for the data elements. The standard does not specify the means by which this information is organized in a computer system or in a data transfer, nor the means by which this information is transmitted, communicated, or presented to the user.

In addition to use by the Federal Government, the FGDC invites and encourages organizations and persons from State, local, and tribal governments, the private sector, and non-profit organizations to use the standard to document their geospatial data.

Tier Two

The Indiana Geographic Information Council recognizes that in some instances resources of State, local, and tribal governments, the private sector, and non-profit organizations may be limited such that full documentation is not possible. In such cases, the Indiana Metadata Profile (Attachment A) is a second tier recommendation for metadata development. The Indiana Metadata Profile is minimumly compliant with the FGDC Content Standard for Digital Geospatial Metadata, and additionally includes information from the standard relevant to Indiana users, such as distribution information.

Please note that while both tiers of metadata meet at least the minimum requirements for the Content Standard for Digital Geospatial Metadata, the Indiana Geographic Information Council encourages the use of the Tier One metadata recommendation.

Examples

Tier One (Attachment B)

Tier Two (Attachment C)

Appendix A: Indiana GIS Metadata Profile

☺ THE INDIANA GEOGRAPHIC INFORMATION COUNCIL RECOMMENDS FULLY COMPLIANT METADATA in accordance to the FGDC Content Standard for Digital Geospatial Metadata. The Indiana GIS Metadata Profile provides guidance for users who cannot otherwise develop fully compliant metadata. For more examples, you can preview the Indiana GIS Initiative Metadata Tool Kit (www.state.in.us/ingisi) for instructions on completing fully compliant metadata. Contact The Polis Center at IUPUI regarding training opportunities 317-274-8400.

☺ DON'T BE OVERWHELMED BY THIS WORKSHEET: The point is to get you started with documenting your data set.

☺ THIS WORKSHEET REPRESENTS SOME BARE-BONES INFORMATION needed to produce a sharable/searchable/retrievable metadata catalog entry. If you wish to document more information about your data set(s), please make a note of it – I can almost guarantee there's a place for it in the fully-compliant metadata.

☺ THIS IS ONLY A WORKSHEET: the information you provide here can be transferred to an FGDC computer format at a later date.

<i>Name of an organization or individual that developed the data set</i>	
8.1 Originator of the data set: <input type="checkbox"/> Unknown <i>or</i> _____	
<i>Free date</i>	
8.2 Publication Date: <input type="checkbox"/> Unknown <input type="checkbox"/> Unpublished <i>or</i> _____	
<i>The name by which the data set is known</i>	
8.4 Title: _____	
8.6 Geodata Presentation Form: <input type="checkbox"/> Atlas <input type="checkbox"/> Audio <input type="checkbox"/> Database <input type="checkbox"/> Diagram <input type="checkbox"/> Document <input type="checkbox"/> Globe <input type="checkbox"/> Graph <input type="checkbox"/> Image <input type="checkbox"/> Map <input type="checkbox"/> Model <input type="checkbox"/> Multimedia presentation <input type="checkbox"/> Profile <input type="checkbox"/> Remote-sensing image <input type="checkbox"/> Section <input type="checkbox"/> Spreadsheet <input type="checkbox"/> Table <input type="checkbox"/> Video <input type="checkbox"/> View <input type="checkbox"/> Other _____	
<i>Use a URL to hyperlink to a data set for Internet download, or link to your organizations web page, if applicable</i>	
8.7 Online linkage: _____	
<i>A brief narrative summary of the data set</i>	
1.2.1 Abstract: _____	
<i>A summary of the intentions with which the data set was developed</i>	
1.2.2 Purpose: <input type="checkbox"/> Not Applicable <input type="checkbox"/> Unknown <i>or</i> _____	
<i>Single date/time OR multiple dates/times OR range of dates/times</i>	
1.3 Time period of content: _____	1.4.1 Progress: <input type="checkbox"/> Complete <input type="checkbox"/> In work <input type="checkbox"/> Planned
<i>"Ground condition" is used for primary data sources such as air photos, field collected data and remote sensing; "Publication date" is used for secondary sources of data</i>	
1.3.1 Currency of the data: <input type="checkbox"/> Ground Condition <input type="checkbox"/> Publication Date	
1.4.2 Maintenance and update frequency: <input type="checkbox"/> Continually <input type="checkbox"/> Daily <input type="checkbox"/> Weekly <input type="checkbox"/> Monthly <input type="checkbox"/> Annually <input type="checkbox"/> Unknown <input type="checkbox"/> As Needed <input type="checkbox"/> Irregular <input type="checkbox"/> None Planned	
1.5 Spatial extent of the data set: <i>Expressed by latitude and longitude values</i>	
West Bounding Coordinate _____ <i>or</i> <input type="checkbox"/> <u>-88.25</u> <i>-180.0 <= West Bounding Coordinate < 180.0 Indiana</i>	1.6.1.1 Theme keyword thesaurus: <input type="checkbox"/> None <i>or</i> _____
East Bounding Coordinate _____ <i>or</i> <input type="checkbox"/> <u>-84.56</u> <i>-180.0 <= East Bounding Coordinate <= 180.0 Indiana</i>	1.6.1.2 Theme keywords: _____ _____ _____
North Bounding Coordinate _____ <i>or</i> <input type="checkbox"/> <u>41.92</u> <i>-90.0 <= North Bounding Coordinate <= 90.0 Indiana</i>	
South Bounding Coordinate _____ <i>or</i> <input type="checkbox"/> <u>37.59</u> <i>-90.0 <= South Bounding Coordinate <= 90.0 Indiana</i>	
<i>Restrictions and legal prerequisites for accessing the data set. These include any access constraints applied to assure the protection of privacy or intellectual property, and any special restrictions or limitations on obtaining the data set.</i>	
1.7 Access Constraints: <input type="checkbox"/> None <i>or</i> _____	

<i>Restrictions and legal prerequisites for using the data set after access is granted. These include any access constraints applied to assure the protection of privacy or intellectual property, and any special restrictions or limitations on obtaining the data set.</i> 1.8 Use Constraints: <input type="checkbox"/> None or _____	
<i>The denominator of the representative fraction on a map (for example, on a 1:24,000-scale map, the Source Scale Denominator is 24000)</i> 2.5.1.2 Source Scale: <input type="checkbox"/> Not Applicable <input type="checkbox"/> Unknown <input type="checkbox"/> 1:_____	
<i>The estimate of the accuracy of the horizontal coordinate measurements expressed in (ground) meters</i> 2.4.1.2.1 Horizontal Positional Accuracy Value: <input type="checkbox"/> Not Applicable <input type="checkbox"/> Unknown <input type="checkbox"/> _____	<i>An estimate of the accuracy of the vertical coordinate measurements in the data set expressed in (ground) meters</i> 2.4.2.2.1 Vertical Positional Accuracy Value: <input type="checkbox"/> Not Applicable <input type="checkbox"/> Unknown <input type="checkbox"/> _____
4.1.4.1 Horizontal Datum Name: <input type="checkbox"/> Not Applicable <input type="checkbox"/> Unknown <input type="checkbox"/> North American Datum of 1927 (NAD27) <input type="checkbox"/> North American Datum of 1983 (NAD83)	4.2.1.1 Altitude (vertical) Datum Name: <input type="checkbox"/> Not Applicable <input type="checkbox"/> Unknown <input type="checkbox"/> National Geodetic Vertical Datum of 1929 (NGVD29) <input type="checkbox"/> National Altitude Vertical Datum of 1988 (NAVD88)
<i>For maps, what map projection or grid coordinate system are you using?</i> 4.1.1.1 Map Projection Name: _____	
5.1.1.1 Entity Type: <input type="checkbox"/> Point <input type="checkbox"/> Line <input type="checkbox"/> Polygon <input type="checkbox"/> Raster <input type="checkbox"/> Route <input type="checkbox"/> Grid <input type="checkbox"/> Other _____	
<div style="display: flex; justify-content: space-between;"> <i>Contact person name AND/OR Organization</i> <i>Position (if applicable)</i> </div>	
6.1 Distributor:	
<i>Street</i>	<i>City</i>
<i>Phone</i>	<i>Fax (if applicable)</i>
<i>State</i>	<i>Zip code</i>
6.3 Distribution Liability: <input type="checkbox"/> None or _____	
<i>In what formats are the data available? The format version is important to the user (eg., ArcInfor v. 7.0.4 export). Note more information can be provided with more complete metadata.</i> 6.4.2.1.1 Digital Form -- Format Name: _____	<i>Are the data available for free or is there an associated cost?</i> 6.4.3 Fees: <input type="checkbox"/> None or _____
<i>The date that the metadata were created or last updated</i> 7.1 Metadata Date: _____	
<div style="display: flex; justify-content: space-between;"> <i>Contact person name AND/OR Organization</i> <i>Position (if applicable)</i> </div>	
7.4 Metadata Contact:	
<i>Street</i>	<i>City</i>
<i>Phone</i>	<i>Fax (if applicable)</i>
<i>State</i>	<i>Zip code</i>
<i>E-mail (if applicable)</i>	
7.5 Metadata Standard: <u>FGDC Content Standard for Digital Geospatial Metadata</u>	7.6 Metadata Standard Version: <u>2.0</u>

Appendix B: Example of Fully Compliant FGDC Metadata

IDENTIFICATION_INFORMATION

Citation:

Citation_Information:

Originator: Indiana Geological Survey

Publication_Date: 20000501

Title: County Boundary Polygon Shapefile for the Illinois Basin

Study Area, Scale 1:100,000 (Gas Research Institute-00/0068 Illinois Basin Consortium Study 4)

Edition: 1.0

Geospatial_Data_Presentation_Form: Map

Publication_Information:

Publication_Place: Bloomington, Indiana

Publisher: Indiana Geological Survey

Other_Citation_Details:

Online_Linkage: None

Larger_Work_Citation:

Citation_Information:

Originator: Gas Research Institute

Publication_Date: 20000630

Title: GIS Compilation of Gas Potential of the New Albany Shale in the Illinois Basin

Publication_Information:

Publication_Place: Bloomington, Indiana

Publisher: Indiana Geological Survey

Online_Linkage: None

Description:

Abstract:

This ArcView polygon shapefile contains a representation of the county boundaries in the Illinois Basin study area. The shapefile can be displayed with other graphic data relating to gas production and potential for the New Albany Shale in Illinois, Indiana, and Kentucky.

Purpose:

In the early 1990s, an Illinois Basin coordinated project was initiated and sponsored by the Gas Research Institute (GRI) to update, consolidate, and evaluate all the available data pertaining to the gas potential of the New Albany Shale. The results of this cooperative project between the Illinois State Geological Survey (ISGS), Indiana Geological Survey (IGS), and Kentucky Geological Survey (KGS) were published as the Final Report Gas Potential of the New Albany Shale (Devonian and Mississippian) in the Illinois Basin, Gas Research Institute, GRI-92/0391, Illinois Basin Study 2, January 1994. In the current 1999 project, information from the 1994 GRI/IBC report has been updated and compiled into a digital format.

Supplemental_Information:

The maps from the original report were compiled in AutoCAD Release 11. After checking the point data locations against the base map, it was decided to recompile the county boundary polygon shapefile in ArcInfo 7.2.1 and ArcView 3.2, along with other base map files, to better

represent the Universal Transverse Mercator projection.

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 19900514

Ending_Date: 19991231

Currentness_Reference: Publication date

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None planned

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -91.6751

East_Bounding_Coordinate: -84.6595

North_Bounding_Coordinate: 42.5420

South_Bounding_Coordinate: 36.4247

Keywords:

Theme:

Theme_Keyword_Thesaurus: None

Theme_Keyword: Illinois State Geological Survey

Theme_Keyword: Indiana Geological Survey

Theme_Keyword: Kentucky Geological Survey

Theme_Keyword: County Boundary

Place:

Place_Keyword_Thesaurus: None

Place_Keyword: Illinois Basin

Place_Keyword: Eastern Interior Basin

Place_Keyword: Illinois

Place_Keyword: Indiana

Place_Keyword: Kentucky

Access_Constraints:

This file is available to anyone, but access may be contingent on written request and/or specific terms relevant to the agency or person making the request.

Use_Constraints:

This report was prepared by the Illinois Basin Consortium (IBC), which consists of the Illinois State Geological Survey, Indiana Geological Survey, and Kentucky Geological Survey, as an account of work funded in part by the Gas Research Institute (GRI). Neither GRI, members of GRI, Indiana University, nor any person or organization acting on behalf of any or all of them:

- A. Makes any warranty or representation, express or implied with respect to the accuracy, completeness, or usefulness of the information contained in this program, including any warranty of merchantability or fitness of any purpose with respect to the program, or that the use of any information disclosed in this program may not infringe privately-owned rights, or
- B. Assumes any liability with respect to the use of, or for any and all damages resulting from the use of the program, or any portion thereof or any information disclosed therein.
It is required that GRI and IBC be cited in any products using this data. No data considered confidential at the time of compilation of the information was included in this report.

Point_of_Contact:

Contact_Information:

Contact_Organization_Primary:
Contact_Organization: Indiana Geological Survey
Contact_Person: Karen K. Like
Contact_Position: Database Coordinator/Cartographic Specialist
Contact_Address:
Address_Type: Mailing and physical address
Address: 611 North Walnut Grove
City: Bloomington
State_or_Province: Indiana
Postal_Code: 47405-2208
Country: USA
Contact_Voice_Telephone: 812/855-7636
Contact_Facsimile_Telephone: 812/855-2862
Contact_Electronic_Mail_Address: klike@indiana.edu
Hours_of_Service: Monday-Friday, 0800 - 1700, Eastern Standard Time
Native_Data_Set_Environment:
ArcView version 3.2 polygon shapefile format
Windows NT 4.0
data\shpfiles\county.shp

DATA_QUALITY_INFORMATION

Attribute_Accuracy:
Attribute_Accuracy_Report:
Personnel of the IGS reviewed county name attributes from the three original state county coverages by comparing hard copy printouts.
Logical_Consistency_Report:
Coverage was checked for dangling nodes.
Completeness_Report:
The county boundary polygons were clipped to the Illinois Basin study area, therefore, only Kentucky west of approximately the 85-degree longitude is shown. The Lake Michigan shoreline was defined using the shoreline represented in the original study and the Indiana county boundaries that extended into the lake were deleted.
Positional_Accuracy:
Horizontal_Positional_Accuracy:
Horizontal_Positional_Accuracy_Report:
Horizontal positional accuracy of this data with respect to the digital source map was verified by visual comparison of the source coverages and new coverages on screen using ArcView 3.2.
Vertical_Positional_Accuracy:
Vertical_Positional_Accuracy_Report:
Vertical positional accuracy was not a factor in the production of the shapefile.
Lineage:
Source_Information:
Source_Citation:
Citation_Information:
Originator: Indiana Geological Survey
Publication_Date: 19940101
Title: GRI County Boundary
Edition: 1.0
Geospatial_Data_Presentation_Form: Map
Publication_Information:
Publication_Place: Bloomington, Indiana

Publisher: Indiana Geological Survey
Other_Citation_Details:
In AutoCAD DWG version 9. Due to projection questions, rebuilt
a new coverage for the digital product.
Online_Linkage: None
Larger_Work_Citation:
Citation_Information:
Originator: Indiana Geological Survey
Publication_Date: 19940101
Title: Final Report Gas Potential of the New Albany Shale
(Devonian and Mississippian) in the Illinois Basin
Publication_Information:
Publication_Place: Bloomington, Indiana
Publisher: Indiana Geological Survey
Online_Linkage: None
Source_Scale_Denominator: 1:500,000
Type_of_Source_Media: Digital
Source_Time_Period_of_Content:
Time_Period_Information:
Range_of_Dates/Times:
Beginning_Date: 19900514
Ending_Date: 19920715
Source_Currentness_Reference: Publication date
Source_Citation_Abbreviation: gribase.dwg
Source_Contribution:
Lake Michigan shoreline in Indiana and 85-degree longitude line
in Kentucky.
Source_Information:
Source_Citation:
Citation_Information:
Originator: Illinois State Geological Survey
Publication_Date: Unknown
Title: Illinois County Boundaries
Edition: 1.0
Geospatial_Data_Presentation_Form: Map
Publication_Information:
Publication_Place: Champaign, Illinois
Publisher: Illinois State Geological Survey
Other_Citation_Details:
In 1995, the state boundary (which is also the boundary of a few
counties) along the Ohio River was officially changed, but these
changes have not been incorporated into this source data set as of
2/22/96 and will not be corrected for this study.
Online_Linkage: None
Larger_Work_Citation:
Citation_Information:
Originator: Illinois State Geological Survey
Publication_Date: 19901231
Title: Topographic quadrangles
Publication_Information:
Publication_Place: Champaign, Illinois
Publisher: Illinois State Geological Survey
Online_Linkage: None
Source_Scale_Denominator: 1:62,500
Type_of_Source_Media: CD-ROM
Source_Time_Period_of_Content:
Time_Period_Information:

Range_of_Dates/Times:
 Beginning_Date: Unknown
 Ending_Date: 19901231
 Source_Currentness_Reference: Publication date
 Source_Citation_Abbreviation: Counties
 Source_Contribution:
 Illinois county boundaries and their names.
 Source_Information:
 Source_Citation:
 Citation_Information:
 Originator: U.S. Department of Commerce
 Publication_Date: 19941231
 Title: TIGER Indiana County Boundaries
 Edition: 1.0
 Geospatial_Data_Presentation_Form: Map
 Publication_Information:
 Publication_Place: Washington, DC
 Publisher: U.S. Department of Commerce
 Other_Citation_Details:
 Created and processed in a VMS environment. Select geographic
 and cartographic information was extracted from the operational
 Census TIGER database.
 Online_Linkage: None
 Larger_Work_Citation:
 Citation_Information:
 Originator: U.S. Department of Commerce
 Publication_Date: 19941231
 Title: TIGER/Line Files
 Publication_Information:
 Publication_Place: Washington, DC
 Publisher: U.S. Department of Commerce
 Online_Linkage: None
 Source_Scale_Denominator: 1:100,000
 Type_of_Source_Media: Online
 Source_Time_Period_of_Content:
 Time_Period_Information:
 Range_of_Dates/Times:
 Beginning_Date: 19920101
 Ending_Date: 19941231
 Source_Currentness_Reference: Publication date
 Source_Citation_Abbreviation:
 Source_Contribution:
 Indiana county boundaries and their names.
 Source_Information:
 Source_Citation:
 Citation_Information:
 Originator: Kentucky Natural Resources
 Publication_Date: 19951004
 Title: County boundaries for Kentucky established at 1:24,000 scale
 Edition: 1.0
 Geospatial_Data_Presentation_Form: Map
 Publication_Information:
 Publication_Place: Lexington, Kentucky
 Publisher: Kentucky Natural Resources
 Other_Citation_Details:
 Heads-up digitized (DOT) from USGS topographic 7.5-minute
 Quadrangles (1:24,000). All coverages were appended and edge

matched to ensure proper alignment of individual quadrangles across tiles.

Online_Linkage: None
Source_Scale_Denominator: 1:24,000
Type_of_Source_Media: CD-ROM
Source_Time_Period_of_Content:
Time_Period_Information:
Range_of_Dates/Times:
Beginning_Date: Unknown
Ending_Date: Unknown
Source_Currentness_Reference: Publication date
Source_Citation_Abbreviation: countydd
Source_Contribution:
Kentucky county boundaries and their names
Process_Step:
Process_Description:
All three state county coverages were built for lines and polygons and projected to Universal Transverse Mercator NAD 27 zone 16.
Source_Used_Citation_Abbreviation:
Process_Date: 20000220
Source_Produced_Citation_Abbreviation:
Process_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Organization: Indiana Geological Survey
Contact_Person: Paul N. Irwin
Contact_Position: GIS/Database Systems Analyst
Contact_Address:
Address_Type: Mailing and physical address
Address: 611 North Walnut Grove
City: Bloomington
State_or_Province: Indiana
Postal_Code: 47405-2208
Country: USA
Contact_Voice_Telephone: 812/855-5812
Contact_Facsimile_Telephone: 812/855-2862
Contact_Electronic_Mail_Address: irwinp@indiana.edu
Hours_of_Service: Monday-Friday, 0800 - 1700, Eastern Standard Time

Process_Step:
Process_Description:
The original AutoCAD gribase.dwg file was opened in ArcView and the counties saved as a shapefile. In ArcInfo using the shapearc command, the shapefile was converted into a coverage and was built for lines. In ArcEdit all lines except the Lake Michigan shoreline in Indiana (lake_rim) and the 85-degree longitude line in Kentucky (85deg) were deleted. The line coverages were built and saved.
Source_Used_Citation_Abbreviation:
Process_Date: 20000121
Source_Produced_Citation_Abbreviation: lake_rim, 85deg
Process_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Organization: Indiana Geological Survey
Contact_Person: Karen K. Like
Contact_Position: Database Coordinator/Cartographic Specialist
Contact_Address:

Address_Type: Mailing and physical address
Address: 611 North Walnut Grove
City: Bloomington
State_or_Province: Indiana
Postal_Code: 47405-2208
Country: USA
Contact_Voice_Telephone: 812/855-7636
Contact_Facsimile_Telephone: 812/855-2862
Contact_Electronic_Mail_Address: klike@indiana.edu
Hours_of_Service: Monday-Friday, 0800 - 1700, Eastern Standard Time
Process_Step:

Process_Description:

The lines defining the state boundary line shared with Illinois were deleted in the Indiana coverage because the Illinois map being used has a more accurate scale. The lines defining the state boundary line shared with Kentucky were deleted from the Illinois line coverage because the Kentucky map being used has a more accurate scale. The three state boundary line coverages, the lake_rim, and 85deg coverages were then appended in ArcInfo and called county1. In ArcEdit the county lines extending into Lake Michigan in Indiana were deleted. The coverage was checked for dangling nodes and cleaned to a .001 tolerance. The coverage was brought into ArcView and converted into a shapefile called county. Eleven (11) small island polygons were deleted to remove small detail that will not be seen at the project scale. The number of polygons matches that of the original study AutoCAD county coverage. The individual state county coverages were added to the view; using the spatial join function in the geoprocessing extension the state and county names were added to the shapefile polygons. The database table was opened in Excel and the state names modified to user-specified standard abbreviations.

Source_Used_Citation_Abbreviation:

Process_Date: 20000221

Source_Produced_Citation_Abbreviation: County

Process_Contact:

Contact_Information:

Contact_Person_Primary:

Contact_Organization: Indiana Geological Survey

Contact_Person: Karen K. Like

Contact_Position: Database Coordinator/Cartographic Specialist

Contact_Address:

Address_Type: Mailing and physical address

Address: 611 North Walnut Grove

City: Bloomington

State_or_Province: Indiana

Postal_Code: 47405-2208

Country: USA

Contact_Voice_Telephone: 812/855-7636

Contact_Facsimile_Telephone: 812/855-2862

Contact_Electronic_Mail_Address: klike@indiana.edu

Hours_of_Service: Monday-Friday, 0800 - 1700, Eastern Standard Time

SPATIAL_DATA_ORGANIZATION_INFORMATION

Direct_Spatial_Reference_Method: Vector

Point_and_Vector_Object_Information:

SDTS_Terms_Description:

SDTS_Point_and_Vector_Object_Type: GT-polygon composed of chains
Point_and_Vector_Object_Count: 271

SPATIAL_REFERENCE_INFORMATION

Horizontal_Coordinate_System_Definition:

Planar:

Grid_Coordinate_System:

Grid_Coordinate_System_Name: Universal Transverse Mercator

Universal_Transverse_Mercator:

UTM_Zone_Number: 16

Transverse_Mercator:

Scale_Factor_at_Central_Meridian: 0.999600

Longitude_of_Central_Meridian: -87.000000

Latitude_of_Projection_Origin: 0.000000

False_Easting: 500000.000000

False_Northing: 0.000000

Planar_Coordinate_Information:

Planar_Coordinate_Encoding_Method: Coordinate pair

Coordinate_Representation:

Abscissa_Resolution:

Ordinate_Resolution:

Planar_Distance_Units: Meters

Geodetic_Model:

Horizontal_Datum_Name: North American Datum of 1927

Ellipsoid_Name: Clarke 1866

Semi-major_Axis: 6378206.4000000

Denominator_of_Flattening_Ratio: 294.98

ENTITY_AND_ATTRIBUTE_INFORMATION

Detailed_Description:

Entity_Type:

Entity_Type_Label: county.dbf

Entity_Type_Definition: Shapefile Attribute Table

Entity_Type_Definition_Source: None

Attribute:

Attribute_Label: Area

Attribute_Definition: Area of polygon

Attribute_Definition_Source: Software generated

Attribute_Domain_Values:

Unrepresentable_Domain:

Software computed

Attribute:

Attribute_Label: Perimeter

Attribute_Definition: Perimeter of polygon

Attribute_Definition_Source: Software generated

Attribute_Domain_Values:

Unrepresentable_Domain:

Software computed

Attribute:

Attribute_Label: State

Attribute_Definition: State Name

Attribute_Definition_Source: User Defined

Attribute_Domain_Values:

Enumerated_Domain:

Enumerated_Domain_Value: IL

Enumerated_Domain_Value_Definition: Illinois
Enumerated_Domain_Value_Definition_Source:
Enumerated_Domain_Value: IN
Enumerated_Domain_Value_Definition: Indiana
Enumerated_Domain_Value_Definition_Source:
Enumerated_Domain_Value: KY
Enumerated_Domain_Value_Definition: Kentucky
Enumerated_Domain_Value_Definition_Source:
Attribute:
Attribute_Label: County
Attribute_Definition: County Name
Attribute_Definition_Source: State County Coverages
Attribute_Domain_Values:
Unrepresentable_Domain: Character Field

DISTRIBUTION_INFORMATION

Distributor:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: Indiana Geological Survey
Contact_Person: Publication Sales
Contact_Position: Clerk
Contact_Address:
Address_Type: Mailing and physical address
Address: 611 North Walnut Grove
City: Bloomington
State_or_Province: Indiana
Postal_Code: 47405-2208
Country: USA
Contact_Voice_Telephone: 812/855-7636
Contact_Facsimile_Telephone: 812/855-2862
Contact_Electronic_Mail_Address: igsinfo@indiana.edu
Hours_of_Service: Monday-Friday, 0800 - 1700, Eastern Standard Time

Resource_Description:
COUNTY: County Boundary Polygon Shapefile for the Illinois Basin
Study Area, Scale 1:100,000 (Gas Research Institute-00/0068 Illinois
Basin Consortium Study 4)

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METADATA_REFERENCE_INFORMATION

Metadata_Date: 20000314

Metadata_Review_Date: 20000621

Metadata_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: Indiana Geological Survey

Contact_Person: Karen K. Like

Contact_Position: Database Coordinator/Cartographic Specialist

Contact_Address:

Address_Type: Mailing and physical address

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State_or_Province: Indiana

Postal_Code: 47405-2208

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Hours_of_Service: Monday-Friday, 0800 - 1700, Eastern Standard Time

Metadata_Standard_Name: FGDC CSDGM

Metadata_Standard_Version: FGDC-STD-001-1998

Appendix C: Example Minimumly Compliant FGDC Metadata

Identification_Information:

Citation:

Citation_Information:

Originator: Indiana Geological Survey

Publication_Date: 20000501

Title:

County Boundary Polygon Shapefile for the Illinois Basin

Study Area, Scale 1:100,000 (Gas Research Institute-00/0068 Illinois Basin Consortium Study 4)

Geospatial_Data_Presentation_Form: Map

Online_Linkage: None

Description:

Abstract:

This ArcView polygon shapefile contains a representation of the county boundaries in the Illinois Basin study area. The shapefile can be displayed with other graphic data relating to gas production and potential for the New Albany Shale in Illinois, Indiana, and Kentucky.

Purpose:

In the early 1990s, an Illinois Basin coordinated project was initiated and sponsored by the Gas Research Institute (GRI) to update, consolidate, and evaluate all the available data pertaining to the gas potential of the New Albany Shale. The results of this cooperative project between the Illinois State Geological Survey (ISGS), Indiana Geological Survey (IGS), and Kentucky Geological Survey (KGS) were published as the Final Report Gas Potential of the New Albany Shale (Devonian and Mississippian) in the Illinois Basin, Gas Research Institute, GRI-92/0391, Illinois Basin Study 2, January 1994. In the current 1999 project, information from the 1994 GRI/IBC report has been updated and compiled into a digital format.

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 19900514

Ending_Date: 19991231

Currentness_Reference: Publication date

Status:

Progress: Complete

Maintenance_and_Update_Frequency: None planned

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -91.6751

East_Bounding_Coordinate: -84.6595

North_Bounding_Coordinate: 42.5420

South_Bounding_Coordinate: 36.4247

Keywords:

Theme:

Theme_Keyword_Thesaurus: None

Theme_Keyword: Illinois State Geological Survey
Theme_Keyword: Indiana Geological Survey
Theme_Keyword: Kentucky Geological Survey
Theme_Keyword: County Boundary
Theme_Keyword: Illinois Basin

Access_Constraints:

This file is available to anyone, but access may be contingent on written request and/or specific terms relevant to the agency or person making the request.

Use_Constraints:

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Data_Quality_Information:

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report: Horizontal positional accuracy of this data with respect to the digital source map was verified by visual comparison of the source coverages and new coverages on screen using ArcView 3.2.

Lineage:

Source_Information:

Source_Scale_Denominator: 100,000

Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:

Geodetic_Model:

Horizontal_Datum_Name: North American Datum of 1927

Entity_and_Attribute_Information:

Detailed_Description:

Entity_Type:

Entity_Type_Label: county.dbf

Distribution_Information:

Distributor:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: Indiana Geological Survey

Contact_Person: Publication Sales

Contact_Position: Clerk
Contact_Address:
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City: Bloomington
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Metadata_Standard_Name: FGDC CSDGM
Metadata_Standard_Version: FGDC-STD-001-1998